

COVER FOR REMOTE CONTROL DEVICE

BACKGROUND OF THE INVENTION

Technical Field:

5 The present invention relates to sanitation covers. More specifically, the present invention relates to methods and apparatus for a disposable sanitation cover comprised of a flexible-elastic, transparent material for enclosing any of a plurality of shared electronic remote control devices for minimizing the transfer of bacteria and viruses from one user of the remote control device to another.

Background Art:

10 Electronic remote control devices are now commonly utilized in our society including, for example, remote control devices utilized in our respective residences for use with television, radio and entertainment systems, garage door openers, security alarm activation devices and the like. In addition, electronic remote control
15 devices are also utilized in quasi-public domains such as hotels, motels, restaurants and social clubs generally frequented by members of the public. Those electronic remote control devices utilized in our residences are generally accessible to a limited number of persons, i.e., not the public-at-large. Thus, limiting who handles and utilizes these residential electronic remote control devices can be generally regulated.
20 However, electronic remote control devices typically encountered in, for example, a hotel/ motel room are handled by most all persons utilizing that particular hotel/motel room. Such common usage of, for example, a television remote control device found in a hotel/motel room provides an excellent vehicle for the transfer of bacteria and/or viruses from a first person handling the commonly-shared remote control device to
25 a second or subsequent person.

 Remote control devices are available in many different shapes and sizes. However, each includes an outer housing typically comprised of plastic and having,

for example, a shape that can be rectangular, square, oblong or the like. Further, a typical remote control device includes a front surface and a rear surface where the front surface is characterized by a keypad exhibiting a plurality push buttons and the rear surface includes a compartment for housing a plurality of batteries. The interior of the outer housing includes a combination of electronic circuitry that generates the various radio frequency (RF) signals and/or infrared signals that are transmitted to the base or host appliance such as, for example, a television receiver. Thus, operation of select push buttons on the keypad located on the front surface of the remote control device generates a particular unique signal for causing the television receiver to perform a specific function such as, for example, change channels. The enclosed batteries are employed for providing electrical energy to power the electronic circuitry contained within the outer housing.

Protective coverings for electronic devices have been known in the past. For example, U.S. Patent No. 6,273,252 to Mitchell teaches a protective covering for a handheld device comprising a resilient, water-impermeable bag having a continuous smooth upper surface. U.S. Patent No. 5,499,713 to Huffer teaches a transparent remote control flexible envelope having a rectangular shape and at least one closing web and gripper means for attaching the envelope to an armrest of a chair. U.S. Patent No. 6,471,056 to Tzeng teaches a portable electronic device protective cover having a loop-like plastic peripheral strip, transparent top plastic panel, and a transparent bottom plastic panel. U.S. Patent No. 6,082,535 to Mitchell discloses a protective covering for a cell phone or pager having a latex construction while U.S. Patent No. 5,316,141 to Jalomo teaches a remote control cover comprised of flexible polyvinyl chloride (PVC) material for protecting the remote control from spills and water. U.S. Patent No. 6,050,407 to Trujillo teaches a remote control cover having a transparent sheath construction for enabling the operation of a keypad housed within the sheath and for protection from dirt. Further, U.S. Patent Nos. 6,273,252 and 6,082,535 to Mitchell for a protective covering for a handheld device or a cell phone discloses a shrink wrap feature so that the protective covering fits all handheld devices or cell phones. U.S. Reissue Patent No. 24,166 to Stiller (1956) teaches an elliptical, self-closing container having a slit on the top surface which functions as a change purse for carrying coins, keys and the like. Application of force to the two

ends of the elliptical container causes the slit to open providing access to the interior of the container which is comprised of liquid plastic.

Notwithstanding, the prior art covers for remote control devices fail to teach a cover for a remote control device that comprises a material composition that is flexible, stretchable and transparent. These features would enable the cover to be stretched over a remote control device and further enable the keypad typically incorporated into the remote control housing to be operated while the cover is fitted thereon. Further, it would be desirable if the cover was a pouch-type cover exhibiting an integral unitary construction and available in a plurality of shapes wherein one size of the cover fits most remote control devices. Additionally, if the cover for a remote control device included an orifice, slit, opening, aperture or the like formed in the rear surface of the cover, such a construction would facilitate fitting the cover onto and off of the remote control device. This feature would conveniently enable the remote control device to be inserted into and removed from the cover. Additionally, if the cover was constructed to incorporate rounded corners, the orifice formed in the rear surface would close for substantially covering the remote control device once fitted thereon. In addition, such a cover would protect the remote control device from spills, dirt and grime, and protect persons from bacteria and viruses if cleaned or changed regularly, the cover being easily removed and disposable.

Thus, there is a need in the art for a cover for a remote control device that comprises a material composition that is flexible, stretchable and transparent that would enable the cover to be stretched over most remote control devices and still enable operation of the keypad, exhibit a pouch-type cover having an integral unitary construction available in a plurality of shapes wherein one size fits most remote control devices, include an orifice, slit, opening, or aperture formed in the rear surface of the cover to facilitate fitting the cover onto and off of the remote control device, incorporate rounded corners so that the orifice formed in the rear surface will close for substantially covering the remote control device once fitted thereon, protect the remote control device from spills, dirt and grime, and protect persons from bacteria and viruses if cleaned or changed regularly, and prevent the door of the battery compartment from being lost.

DISCLOSURE OF THE INVENTION

5 Briefly, and in general terms, the present invention provides a new and improved cover for a remote control device for creating a convenient, disposable cover for enclosing any of a plurality of electronic remote control devices typically shared among many persons. The cover for a remote control device serves to minimize the transfer of bacteria and viruses from one person who uses the remote control device to another, i.e., the cover provides a sanitation barrier. In particular, the inventive cover for a remote control device is comprised of a flexible-elastic, transparent material fashioned so as to easily conform to the shape of the remote control device. Further, the flexible-elastic transparent material facilitates the capture of the remote control device within the fabric of the cover. Likewise, the cover can be easily removed from the remote control device.

10 In general, the cover for remote control device comprises a sheath-like or pouch-like enclosure that includes a front member integrally formed with a rear member at a plurality of rounded surfaces. An orifice or opening is formed in the rear member of the cover for facilitating the insertion and removal of a remote control device. The front member typically exhibits a continuously flat surface. However, the shape of the rear member can vary depending upon the shape of the remote control device and thus, the inventive cover is necessarily available in several different shapes. The plurality of rounded surfaces that integrally join the front member with the rear member enable the flexible-elastic material from which the cover is fashioned to partially relax once the cover is fitted onto the remote control device. This relaxation of the flexible-elastic material enables the orifice to close upon itself ensuring that the cover substantially encloses the remote control device.

20 The cover exhibits an integral, unitary construction and can be comprised of, for example, a polyurethane compound but many other suitable materials are also available. The selected material is flexible, elastic, i.e., stretchable, and thus quickly adopts or conforms to the shape of the remote control device. Thus, once fitted, the cover snugly fits over an outer housing of the remote control device. A typical remote control device, whether used for a television, stereo system, hospital bed control or

other manual electronic control device, includes a control keypad. Manipulation of the keys mounted on the keypad facilitates the control of the specific electronic device. The selected material from which the cover is fashioned is also transparent. Thus, once fitted onto the remote control device, the transparent nature of the inventive cover facilitates unimpeded operation of the keys mounted on the keypad. The
5 inventive cover for the remote control device serves several functions. Since the remote control device is typically shared between, i.e., handled, by several persons, the cover functions to prevent the transfer of bacteria and viruses between individuals. Thus, in a quasi-public setting as in a hotel or motel environment, the cover would
10 normally be changed daily along with the bed sheets. In a domestic setting, the cover could be cleaned regularly with a suitable disinfecting cleaner product. The cover also serves to protect the electronic circuitry of the remote control device from dirt, soil, spills and grime. Thus, the inventive cover establishes a sanitation barrier to protect both the plurality of users of the remote control device and the electronic circuitry
15 housed within the remote control device.

In a preferred embodiment, the cover for the remote control device in its most fundamental form comprises a front member which exhibits a generally continuous flat surface and a rear member having a curved surface. The rear member is integrally joined with the front member at a plurality of rounded surfaces for forming an
20 enclosure. An orifice is formed in the curved surface of the rear member for enabling a remote control device to be inserted into and removed from the enclosure. The rounded surfaces designed into the cover facilitate the closing of the orifice for enclosing the remote control device. The front member, rear member and rounded surfaces are each comprised of a flexible, stretchable and transparent material for
25 conforming to the shape of the remote control device and for providing a sanitation barrier.

In a first alternative embodiment, the cover for the remote control device comprises a front member which exhibits a generally continuous flat surface and a rear member having a converging surface. The converging surface comprises a first
30 slanted surface and a second slanted surface. The rear member is integrally joined with the front member at a plurality of rounded surfaces for forming an enclosure. An orifice is formed in the converging surface of the rear member for enabling a remote

control device to be inserted into and removed from the enclosure. The rounded surfaces designed into the cover facilitate the closing of the orifice for enclosing the remote control device. In a second alternative embodiment, the cover for the remote control device also comprises a front member having a generally continuous flat surface and a rear member having a rectangular surface. The rear member is also integrally joined with the front member at a plurality of rounded surfaces for forming an enclosure. An orifice is formed in the rectangular surface of the rear member for enabling a remote control device to be inserted into and removed from the enclosure. The rounded surfaces facilitate the closing of the orifice for enclosing the remote control device.

These and other objects and advantages of the present invention will become apparent from the following more detailed description, taken in conjunction with the accompanying drawings which illustrate the invention, by way of example.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a front perspective view of a cover for remote control device of the preferred embodiment of the present invention showing a front flat surface with an orifice, formed in a rear curved surface, shown in phantom.

Fig. 2 is a rear perspective view of the cover for remote control device of Fig. 1 showing the rear curved surface including the orifice formed therein.

Fig. 3 is a right side elevation of the cover for remote control device of Fig. 1 showing the front flat surface on the bottom and the rear curved surface on the top of the view, a left side elevation being a mirror image thereof.

Fig. 4 is an end view of the cover for remote control device of Fig. 1 showing both the front flat surface on the bottom and the rear curved on the top of the view.

Fig. 5 is a rear planar view of the cover for remote control device of Fig. 1 showing the orifice formed within the rear curved surface.

Fig. 6 is a front perspective view of the cover for remote control device of Fig. 1 shown mounted upon an oblong remote control device, a keypad of the remote control device being visible through the front flat surface of the cover.

Fig. 7 is a rear perspective view of the cover for remote control device of Fig. 1 shown mounted upon an oblong remote control device, a rear surface of the remote control device being visible through the orifice formed in the rear curved surface of the cover.

5 Fig. 8 is a perspective view of the cover for remote control device of Fig. 1 showing the cover being fitted over the oblong remote control device and illustrating the flexible-elastic and transparent nature of the cover, the keypad of the remote control device being visible through the cover.

10 Fig. 9 is a front perspective view of a first alternative embodiment of the cover for remote control device of the present invention showing a front flat surface with an orifice, formed in a rear surface, shown in phantom.

Fig. 10 is a rear perspective view of the cover for remote control device of Fig. 9 showing the rear surface of the cover with the orifice formed therein.

15 Fig. 11 is a right side elevation of the cover for remote control device of Fig. 10 showing a common edge of the front flat surface and the rear surface, a left side elevation being a mirror image thereof.

Fig. 12 is an end view of the cover for remote control device of Fig. 10 showing the front flat surface at the bottom of the view and the orifice formed in the rear surface at the top of the view.

20 Fig. 13 is a front planar view of the cover for remote control device of Fig. 9 showing the front flat surface with the orifice, formed in the rear surface, shown in phantom.

25 Fig. 14 is a front perspective view of a second alternative embodiment of the cover for remote control device of the present invention showing a front flat surface with an orifice, formed in a rear surface, shown in phantom.

Fig. 15 is a rear perspective view of the cover for remote control device of Fig. 14 showing the rear surface of the cover with the orifice formed therein.

30 Fig. 16 is a left side elevation of the cover for remote control device of Fig. 14 showing a side connecting the front flat surface and the rear surface, a right side elevation being a mirror image thereof.

Fig. 17 is an end view of the cover for remote control device of Fig. 14 showing the front flat surface at the top of the view and the rear surface at the bottom of the view.

Fig. 18 is a rear plan view of the cover for remote control device of Fig. 15 showing the orifice formed vertically in the rear surface thereof.

Fig. 19 is a rear plan view of the cover for remote control device of Fig. 15 showing the orifice formed horizontally along the bottom of the rear surface thereof.

Fig. 20 is a rear plan view of the cover for remote control device of Fig. 15 showing the orifice formed horizontally along the top of the rear surface thereof.

DETAILED DESCRIPTION OF THE INVENTION

The present invention is a cover 100 for use with a remote control device 102 which provides a convenient, disposable cover for enclosing any of a plurality of electronic remote control devices typically utilized by a plurality of persons. The remote control device 102 can be utilized, for example, to control a television, stereo system, hospital bed or other manual electronic control apparatus.

The inventive cover 100 serves to minimize the transfer of bacteria and viruses between persons who contact the remote control device 102 during use, and to protect the remote control device 102 from dirt, spills, soil and grime. Thus, the inventive cover 100 establishes a sanitation barrier to protect the users of and the electronic circuitry housed within the remote control device 102. The inventive cover 100 is comprised of a flexible-elastic, transparent material that (a) quickly conforms to or adopts the shape of the remote control device 102, and (b) facilitates the capture and release of the remote control device 102 as it relates to the cover 100. Although the cover 100 of the present invention is disclosed herein for use with the remote control device 102, it should be noted that the utility of the cover 100 is not limited thereto. The present invention has applications to many other electronic devices including, but not limited to, portable telephone apparatus.

A preferred embodiment of the cover 100 of the present invention will now be described in detail. The cover 100 is illustrated in Figs. 1-5 while the cover 100 in

association with the remote control device 102 is illustrated in Figs. 6-8. Turning our attention to Figs. 1-5, the cover 100 comprises a sheath-like or pouch-like enclosure that includes a front member 104 and a rear member 106 as is shown in Figs. 1 and 2. The front member 104 is integrally joined as by molding with the rear member 106 at a plurality of rounded surfaces 108 best shown in Figs. 3 and 4 to provide the cover 100 with an integral, unitary (i.e., one piece) construction. As is clearly shown in Fig. 1, the front member 104 exhibits a continuously flat surface which is functional as will be explained herein below. However, the shape of the rear member 106 can vary depending upon the shape of the remote control device 102 for which the cover 100 is intended to be used. In the preferred embodiment illustrated in Figs. 1-5, the rear member 106 has a curved surface which exhibits an oblong dimension as is best shown in Figs. 1, 3 and 5. The rear member 106 having the oblong dimension along the curved surface is integrally joined with the front member 104 having the continuously flat surface at the plurality of rounded surfaces 108. This construction forms the sheath-like or pouch-like enclosure illustrated in Fig. 2.

An orifice 110 is formed in the curved surface of the rear member 106 as is clearly shown in Figs. 2, 5 and 7. The orifice 110 provides an opening in the rear member 106 for enabling the remote control device 102 to be inserted into and removed from the cover 100. The orifice 110 as illustrated in Figs. 1, 2, 5 and 7 is a long narrow opening that has been determined to be the best orientation for the cover 100 of the preferred embodiment. This determination is based upon an evaluation of several factors including the preferred construction material as will be discussed herein below. Further, the orifice 110 is positioned parallel to the oblong dimension of the curved surface of the rear member 106 (see Figs. 2 and 5) which has been determined to be the most convenient entry and exit point for the remote control device 102. However, it should be pointed out that the shape and position of the orifice 110 can be modified and the inventive cover 100 will still function as intended. For example, the orifice 110 could be an oval, slit, gap, or aperture and could be repositioned on the rear member 106 in, for example, a diagonal fashion. Further, the orifice 110 could also be located in the front member 104 or in the rounded surfaces 108, if necessary, but would not operate as efficiently as disclosed in the preferred embodiment. The orifice 110 includes an edge or lip 112 as is shown in Figs. 5 and 7. It is noted that

the lip 112 of the orifice 110 could be reinforced. However, through experimentation, it has been determined that the lip 112 need not be reinforced in order to retain the shape of the orifice 110.

Once the inventive cover 100 is fitted over the remote control device 102 (i.e.,
5 the remote control device 102 is inserted into the cover 100 through the orifice 110), it is desirable that the orifice 110 close as shown in Fig. 7. Under these conditions, the remote control device 102 would be substantially enclosed by the cover 100 and physical contact therewith would be minimized if not eliminated. The cover 100 including the plurality of rounded surfaces 108 is comprised of the flexible-elastic
10 material. The rounded surfaces 108 are the components of the inventive cover 100 which enable the front member 104 to be integrally joined to the rear member 106. Once the cover 100 is fitted over the remote control device 102, the rounded surfaces 108 enable the flexible-elastic material to partially relax. This relaxation of the flexible-elastic material enables the orifice 110 to close upon itself ensuring that the cover 100
15 substantially encloses the remote control device 102. Thus, the rounded surfaces 108 designed into the cover 100 facilitate the closing of the orifice 110 for enclosing the remote control device 102. Therefore, an individual handling the inventive cover 100 once fitted in position, is not likely to contact the remote control device 102.

The cover 100 including the front member 104, rear member 106 and plurality
20 of rounded surfaces 108 exhibits an integral, unitary construction and can be comprised of, for example, a polyurethane compound but many other suitable materials are also available. The polyurethane compound has been selected as a preferred material since it readily conforms to the shape of the remote control device 102, is flexible, elastic, and transparent, and is strong notwithstanding the present of
25 the orifice 108. Besides the polyurethane compound, the cover 100 can also be comprised of, for example, latex, polyvinyl chloride, nitrile rubber, silicon, neoprene, or styrenic elastomer. Each of these alternative materials enumerated immediately above also is flexible, elastic, i.e., stretchable, and transparent and thus quickly adopts or conforms to the shape of the remote control device 102. Thus, once fitted, the
30 cover 100 snugly fits over an outer housing 114 (see Fig. 8) of the remote control device 102.

Remote control devices 102 are available in a variety of shapes and sizes depending upon the number of circuits housed therein and the physical layout of a control keypad 116 incorporated therein. A typical remote control device 102, whether used for a television, stereo system, hospital bed control or other manual electronic control device, includes the control keypad 116 as shown in Figs. 6 and 8. Manipulation of a plurality of keys 118 mounted on the control keypad 116 facilitates the control of the specific electronic device with which the remote control device 102 is intended to be used. The appearance of any particular remote control device 102 can vary, i.e., for example, some remote control devices 102 are rectangular while others are oblong in shape. However, the control keypad 116 is typically planar in shape to facilitate its installation. Consequently, the utility of the continuously flat surface of the front member 104 of the inventive cover 100 is that it enables the front member 104 to closely hug the surface of the control keypad 116. The selected material from which the cover 100 is fashioned, i.e., the polyurethane compound in the preferred embodiment, is transparent in addition to being flexible, elastic and stretchable. Thus, once fitted onto the remote control device 102, the transparent nature of the inventive cover 100 facilitates unimpeded operation of the plurality of keys 118 mounted on the control keypad 116. Therefore, the flat surface of the front member 104 and the transparent nature of the inventive cover 100 assists the user in operating the plurality of keys 118 located on the control keypad 116 as shown in Figs. 6 and 8. Further, the appearance of the inventive cover 100 when fitted upon the remote control device 102 is determined by (a) the shape of the remote control device 102, i.e., for example, square versus oblong, and (b) the material selected from which the cover 100 is formed.

The inventive cover 100 is shown being fitted onto the remote control device 102 in Fig. 8. The remote control device 102 is securely held in, for example, the left hand while the inventive cover 100 (as shown in Fig. 1) is aligned therewith with the right hand (see Fig. 8). The remote control device 102 is extended through the orifice 110 shown underneath in Fig. 1. The cover 100 is then wrapped about an upper end 120 of the outer housing 114 of the remote control device 102 as is shown in Fig. 8. With a top end 122 of the cover 100 anchored upon the upper end 120 of the outer housing 114, a bottom end 124 of the flexible-elastic cover 100 is stretched downward

to a lower end 126 of the remote control device 102. This action stretches the flexible -elastic cover 100 and opens the orifice 110 in the rear member 106 enabling the remote control device 102 to be surrounded by the cover 100. Once the cover 100 surrounds the remote control device 102, the bottom end 124 of the cover 100 is anchored around the lower end 126 of the outer housing 114 of the remote control device 102. The bottom end 124 of the cover 100 is then released. Thereafter, the flexible-elastic cover 100 contracts and the plurality of rounded surfaces 108 enable the rear member 106 of the cover 100 to partially relax. This action causes the lip 112 of the orifice 110 on the rear member 106 to close so that the remote control device 102 is substantially covered as is shown in Fig. 7. The continuously flat surface of the front member 104 is shown closely hugging the surface of the control keypad 116 of the remote control device 102 in Fig. 6. This close fitting feature in combination with the transparency of the cover 100 facilitates the operation of the plurality of keys 118 on the control keyboard 116. Removal of the disposable cover 100 is accomplished by reversing the order of the steps set forth in the this paragraph.

The inventive cover 100 for the remote control device 102 serves several functions. Since the remote control device 102 is typically shared between, i.e., handled, by several persons, the cover 100 functions to prevent the transfer of bacteria and viruses between individuals. Thus, in a quasi-public setting such as in a hotel or motel environment, the cover 100 would normally be changed daily along with, for example, the bed sheets. Thus, the inventive cover 100 is a disposable item (see Fig. 8) that could be purchased in bulk by members of the hospitality industry. In a domestic setting, the cover 100 could be cleaned regularly with a suitable disinfecting cleaner product. The cover 100 also serves to protect the electronic circuitry of the remote control device 102 from dirt, soil, spills and grime. Thus, the inventive cover 100 establishes a sanitation barrier to protect both the plurality of users of the remote control device 102 and the electronic circuitry housed within the remote control device 102. Additionally, the inventive cover 100 also serves to prevent the loss of a battery compartment cover (not shown) mounted on the remote control device 102 when the cover 100 is fitted thereon.

A first alternative embodiment of the cover for use with a remote control device is shown in Figs. 9-13 and is referred to by the identification number 200. Each of the

components appearing in the first alternative embodiment 200 that correspond in structure and function to those components appearing in the preferred embodiment 100 is identified by the corresponding number of the 200 series.

5 The components appearing in the first alternative embodiment of the inventive cover 200 for use with a remote control device that correspond in structure and function to those components appearing in the preferred embodiment are set forth at this time. Those components include a front member 204 having a continuously flat surface, a rear member 206, a plurality of rounded surfaces 208 employed to integrally join the front member 204 with the rear member 206, an orifice 210 used for the
10 insertion and removal of a remote control device into and from the cover 200, an edge or lip 212 of the orifice 210, and a top end 222 and a bottom end 224, each of the inventive cover 200. Certain components included in the first alternative embodiment 200 are identical to those disclosed in the preferred embodiment and continue to be identified by their assigned numbers of the 100 series as illustrated in
15 Figs. 6, 7 and 8. Those components include a remote control device 102 for controlling an electronic apparatus such as, for example, a television (not shown), an outer housing 114 for enclosing electronic circuitry (not shown), a control keypad 116 including a plurality of keys 118 each for entering command data into the remote control device 102, an upper end 120 and a lower end 126, each of the remote control
20 device 102.

Many of the characteristic features of the inventive cover 200 are the same as those disclosed in the preferred embodiment. For example, the cover 200 exhibits an integral, unitary construction comprised of a flexible-elastic, stretchable and transparent material. The orifice 210 continues to be located on the rear member 206
25 for facilitating the fitting of the cover 200 onto the remote control device 102. The plurality of rounded surfaces 208, i.e., rounded corners, continue to enable the rear member 206 (once fitted onto the remote control device 102) to partially relax so that the orifice 210 will close. Further, the primary function of the inventive cover 200 continues to be to prevent the transfer of bacteria and viruses between individuals
30 using a common remote control device 102, and to protect the electronic circuitry of the remote control device 102 from dirt, soil, spills and grime. Thus, as with the preferred embodiment, the inventive cover 200 establishes a sanitation barrier to

protect both the plurality of users of the remote control device 102 and the electronic circuitry housed within the remote control device 102. Additionally, the inventive cover 200 also serves to prevent the loss of a battery compartment cover (not shown) mounted on the remote control device 102 when the cover 200 is fitted thereon.

5 Turning our attention to Figs. 9-13, the cover 200 comprises a sheath-like or pouch-like enclosure that includes the front member 204 and the rear member 206 as is shown in Figs. 9 and 10. The front member 204 is integrally joined as by molding with the rear member 206 at a plurality of rounded surfaces 208 best shown in Fig. 13 to provide the cover 200 with an integral, unitary (i.e., one piece) construction. As
10 is clearly shown in Fig. 9, the front member 204 exhibits a continuously flat surface which, as in the preferred embodiment, is functional in providing visual communication with the remote control device 102. The front member 204 also exhibits an oblong dimension as shown in Fig. 13. In the first alternative embodiment illustrated in Figs. 9-13, the rear member 206 has a converging surface as is best shown in Figs. 9, 10
15 and 12. The converging surface of the rear member 206 includes a first slanted surface 230 and a second slanted surface 232 each of which converge into the lip or edge 212 of the orifice 210 as is clearly shown in Figs. 9, 10 and 12. The rear member 206 having the converging surface (which comprises the first slanted member 230 and the second slanted member 232) is integrally joined with the front member
20 204 having the continuously flat surface and oblong dimension at the plurality of rounded surfaces 208. In other words, the first slanted surface 230 and the second slanted surface 232 are each integrally joined with the front member 204 at the plurality of rounded surfaces 208 as is clearly illustrated in Fig. 12. This construction forms the sheath-like or pouch-like enclosure illustrated in Fig. 10.

25 The orifice 210 is formed in the converging surface of the rear member 206 and is bounded by the first slanted surface 230 and the second slanted surface 232 as is clearly shown in Figs. 9, 10 and 13. The orifice 210 provides an opening in the rear member 206 for enabling the remote control device 102 to be inserted into and removed from the cover 200. The orifice 210 as illustrated in Fig. 10 is a long narrow
30 opening that has been determined to be the best orientation for the cover 200. This determination is based upon an evaluation of several factors including the preferred construction material of a polyurethane compound. Further, the orifice 210 is

positioned parallel to the oblong dimension of the front member 204 (see Fig. 13) which has been determined to be the most convenient entry and exit point for the remote control device 102. However, it should be pointed out that the shape and position of the orifice 210 can be modified and the inventive cover 200 will still function as intended. For example, the orifice 210 could be an oval, slit, gap, or aperture and could be repositioned on the rear member 206 in, for example, a diagonal fashion. Further, the orifice 210 could also be located in the front member 204 or in the rounded surfaces 208, if necessary, but would not operate as efficiently as disclosed herein. The orifice 210 also includes an edge or lip 212 as is shown in Fig. 10. It is noted that the lip 212 of the orifice 210 could be reinforced. However, through experimentation, it has been determined that the lip 212 need not be reinforced in order to retain the shape of the orifice 210.

Once the inventive cover 200 is fitted over the remote control device 102 (i.e., the remote control device 102 is inserted into the cover 200 through the orifice 210), it is desirable that the orifice 210 close as shown in Fig. 10. Under these conditions, the remote control device 102 would be substantially enclosed by the cover 200 and physical contact therewith would be minimized if not eliminated. The cover 200 including the plurality of rounded surfaces 208 is comprised of the flexible-elastic material. The rounded surfaces 208 are the components of the inventive cover 200 which enable the front member 204 to be integrally joined to the rear member 206. Once the cover 200 is fitted over the remote control device 102, the rounded surfaces 208 enable the flexible-elastic material to partially relax. This relaxation of the flexible-elastic material enables the orifice 210 to close upon itself ensuring that the cover 200 substantially encloses the remote control device 102. Thus, the rounded surfaces 208 designed into the cover 200 facilitate the closing of the orifice 210 for enclosing the remote control device 102. Therefore, an individual handling the inventive cover 200 once fitted in position, is not likely to contact the remote control device 102.

As with the preferred embodiment, the cover 200 including the front member 204, rear member 206 and plurality of rounded surfaces 208 exhibits an integral, unitary construction and can be comprised of, for example, a polyurethane compound but many other suitable materials are also available. Besides the polyurethane compound, the cover 100 can also be comprised of, for example, latex, polyvinyl

chloride, nitrile rubber, silicon, neoprene, or styrenic elastomer. The selected material which can include any of those materials enumerated herein is flexible, elastic, i.e., stretchable, and transparent and thus quickly adopts or conforms to the shape of the remote control device 102. Thus, once fitted, the cover 200 snugly fits over the outer housing 114 (see Fig. 8) of the remote control device 102.

The construction and operation of the remote control device 102 is identical to that described with regard to the preferred embodiment. Consequently, the utility of the continuously flat surface of the front member 204 of the inventive cover 200 is that it enables the front member 204 to closely hug the surface of the control keypad 116. The selected material from which the cover 200 is fashioned, i.e., the polyurethane compound, is transparent in addition to being flexible, elastic and stretchable. Thus, once fitted onto the remote control device 102, the transparent nature of the inventive cover 200 facilitates unimpeded operation of the plurality of keys 118 mounted on the control keypad 116. Therefore, the flat surface of the front member 204 and the transparent nature of the inventive cover 200 assists the user in operating the plurality of keys 118 located on the control keypad 116 as shown in Figs. 6 and 8. Further, the appearance of the inventive cover 200 when fitted upon the remote control device 102 is determined by (a) the shape of the remote control device 102, i.e., for example, square versus oblong, and (b) the material selected from which the cover 200 is formed. Finally, the procedure for inserting the remote control device 102 into and withdrawing it from the cover 200 is duplicate to that described with regard to the preferred embodiment.

A second alternative embodiment of the cover for use with a remote control device is shown in Figs. 14-20 and is referred to by the identification number 300. Each of the components appearing in the second alternative embodiment 300 that correspond in structure and function to those components appearing in the preferred embodiment 100 is identified by the corresponding number of the 300 series.

The components appearing in the second alternative embodiment of the inventive cover 300 for use with a remote control device that correspond in structure and function to those components appearing in the preferred embodiment 100 and the first alternative embodiment 200 are set forth at this time. Those components include a front member 304 having a continuously flat surface, a rear member 306,

5 a plurality of rounded surfaces 308, i.e., radiused round edges, employed to integrally join the front member 304 with the rear member 306, an orifice 310 used for the insertion and removal of a remote control device into and from the cover 300, an edge or lip 312 of the orifice 310, and a top end 322 and a bottom end 324, each of the inventive cover 300. Certain components included in the second alternative embodiment 300 are identical to those disclosed in the preferred embodiment and continue to be identified by their assigned numbers of the 100 series as illustrated in Figs. 6, 7 and 8. Those components include a remote control device 102, an outer housing 114, a control keypad 116 including a plurality of keys 118, an upper end 120 and a lower end 126, each of the remote control device 102.

10 Many of the characteristic features of the inventive cover 300 are the same as those disclosed in the preferred embodiment. For example, the cover 300 exhibits an integral, unitary construction comprised of a flexible-elastic, stretchable and transparent material. The orifice 310 continues to be located on the rear member 306 for facilitating the fitting of the cover 300 onto the remote control device 102. The plurality of rounded surfaces 308, i.e., radiused round edges, continue to enable the rear member 306 (once fitted onto the remote control device 102) to partially relax so that the orifice 310 will close. Further, the primary function of the inventive cover 300 continues to be to prevent the transfer of bacteria and viruses between individuals using a common remote control device 102, and to protect the electronic circuitry of the remote control device 102 from dirt, soil, spills and grime. Thus, as with the preferred embodiment, the inventive cover 300 establishes a sanitation barrier to protect both the plurality of users of the remote control device 102 and the electronic circuitry housed within the remote control device 102. Additionally, the inventive cover 300 also serves to prevent the loss of a battery compartment cover (not shown) mounted on the remote control device 102 when the cover 300 is fitted thereon.

25 Turning our attention to Figs. 14-20, the cover 300 comprises a sheath-like or pouch-like enclosure that includes the front member 304 and the rear member 306 as is shown in Figs. 14 and 15. The front member 304 is integrally joined as by molding with the rear member 306 at the plurality of rounded surfaces 308, i.e., radiused round edges, best shown in Figs. 14 and 15 to provide the cover 300 with an integral, unitary (i.e., one piece) construction. As is clearly shown in Fig. 14, the front member

304 exhibits a continuously flat surface which, as in the preferred embodiment, is functional in providing visual communication with the remote control device 102.

In the second alternative embodiment illustrated in Figs. 14-20, the rear member 306 has a rectangular surface which is also substantially flat as is best shown in Figs. 15 and 18. The rear member 306 having the rectangular surface which is substantially flat, i.e., a substantially flat rectangular surface, is integrally joined with the front member 304 having the continuously flat surface at the plurality of rounded surfaces 308, i.e., radiused round edges. This construction forms the sheath-like or pouch-like enclosure illustrated in Figs. 14 and 15.

The orifice 310 is formed in the flat rectangular surface of the rear member 306 as is clearly shown in Figs. 14, 15 and 18. The orifice 310 provides an opening in the rear member 306 for enabling the remote control device 102 to be inserted into and removed from the cover 300. The orifice 310 as illustrated best in Figs. 15 and 18 is a long narrow opening or oval that has been determined to be the best orientation for the cover 300. This determination is based upon an evaluation of several factors including the preferred construction material of a polyurethane compound. It is noted that the rectangular surface of the rear member 306 includes a long dimension 334 and a short dimension 336 as is shown in Figs. 18, 19 and 20. In the illustration of Fig. 18, the orifice 310 is positioned parallel to the long dimension 334 of the rear member 306 which has been determined to be the most convenient entry and exit point for the remote control device 102. However, it should be pointed out that the shape and position of the orifice 310 can be modified and the inventive cover 300 will still function as intended. For example, the orifice 310 could be a slit, gap, or aperture and could be repositioned on the rear member 306. For example, the orifice 310 can be a narrow opening or oval positioned parallel to the short dimension 336 in either the bottom end 324 of the rear member 306 (see Fig. 19) or the top end 322 of the rear member 306 (see Fig. 20). Further, the orifice 310 could also be located in the front member 304 or in the rounded surfaces 308, if necessary, but would not operate as efficiently as disclosed herein. The orifice 310 also includes an edge or lip 312 as is shown in Figs. 15 and 18. It is noted that the lip 312 of the orifice 310 could be reinforced. However, through experimentation, it has been determined that the lip 312 need not be reinforced in order to retain the shape of the orifice 310.

Once the inventive cover 300 is fitted over the remote control device 102 (i.e., the remote control device 102 is inserted into the cover 300 through the orifice 310), it is desirable that the orifice 310 close as shown in Fig. 15. Under these conditions, the remote control device 102 would be substantially enclosed by the cover 300 and physical contact therewith would be minimized if not eliminated. The cover 300 including the plurality of rounded surfaces 308, i.e., radiused round edges, is comprised of the flexible-elastic material. The rounded surfaces 308 are the components of the inventive cover 300 which enable the front member 304 to be integrally joined to the rear member 306. Once the cover 300 is fitted over the remote control device 102, the rounded surfaces 308 enable the flexible-elastic material to partially relax. This relaxation of the flexible-elastic material enables the orifice 310 to close upon itself ensuring that the cover 300 substantially encloses the remote control device 102. Thus, the rounded surfaces 308 designed into the cover 300 facilitate the closing of the orifice 310 for enclosing the remote control device 102. Therefore, an individual handling the inventive cover 300, once fitted in position, is not likely to contact the remote control device 102.

As with the preferred embodiment, the cover 300 including the front member 304, rear member 306 and plurality of rounded surfaces 308 exhibits an integral, unitary construction and can be comprised of, for example, a polyurethane compound but many other suitable materials are also available. Besides the polyurethane compound, the cover 100 can also be comprised of, for example, latex, polyvinyl chloride, nitrile rubber, silicon, neoprene, or styrenic elastomer. The selected material which can include any of those materials enumerated herein is flexible, elastic, i.e., stretchable, and transparent and thus quickly adopts or conforms to the shape of the remote control device 102. Thus, once fitted, the cover 300 snugly fits over the outer housing 114 (see Fig. 8) of the remote control device 102.

The construction and operation of the remote control device 102 is identical to that described with regard to the preferred embodiment. Consequently, the utility of the continuously flat surface of the front member 304 of the inventive cover 300 is that it enables the front member 304 to closely hug the surface of the control keypad 116 of the remote control device 102. The selected material from which the cover 300 is fashioned, i.e., the polyurethane compound, is transparent in addition to

being flexible, elastic and stretchable. Thus, once fitted onto the remote control device 102, the transparent nature of the inventive cover 300 facilitates unimpeded operation of the plurality of keys 118 mounted on the control keypad 116. Therefore, the flat surface of the front member 304 and the transparent nature of the inventive cover 300 assists the user in operating the plurality of keys 118 located on the control keypad 116 as shown in Figs. 6 and 8. Further, the appearance of the inventive cover 300 when fitted upon the remote control device 102 (as with the preferred embodiment 100 and the first alternative embodiment 200) is determined by (a) the shape of the remote control device 102, i.e., for example, square versus oblong, and (b) the material selected from which the cover 300 is formed. Finally, the procedure for inserting the remote control device 102 into and withdrawing it from the cover 300 is duplicate to that described with regard to the preferred embodiment.

The present invention provides novel advantages over other covering devices known in the prior art. A main advantage of the inventive cover 100 is that (1) it creates a sanitation barrier to protect individual users of the remote control device 102 by effectively preventing the transfer of bacteria and viruses between users when regularly refitted, and (2) by protecting the remote control device 102 from dirt, soil, spills and grime. Other advantages of the inventive cover 100 for use with the remote control device 102 include (3) the orifice 110 formed within the rear member 106 to facilitate the insertion and removal of the remote control device into and from the cover 100, (4) the front member 104 having a transparent and continuously flat surface that assists in the visual operation of the control keypad 116, (5) the plurality of rounded surfaces 108 that enable the rear member 106 to relax when fitted on the remote control device 102 thus enabling the orifice 110 to close substantially covering the remote control device 102, (6) being fabricated from a flexible-elastic and stretchable material that facilitates insertion and removal of the cover 100 onto the remote control device 102, and (7) preventing the loss of the battery compartment cover (not shown) mounted on the remote control device 102.

While the present invention is described herein with reference to illustrative embodiments for particular applications, it should be understood that the invention is not limited thereto. Those having ordinary skill in the art and access to the teachings provided herein will recognize additional modifications, applications and embodiments

U.S. Express Mail Label No. ET231715904US
Attorney Docket No. 10422
Richard P. Hodges - Applicant

within the scope thereof and additional fields in which the present invention would be of significant utility.

It is therefore intended by the appended claims to cover any and all such modifications, applications and embodiments within the scope of the present invention.

Accordingly,

WHAT IS CLAIMED IS: